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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/589,748

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EXAMINER

ZOLLINGER, NATHAN C

ART UNIT

PAPER NUMBER

3746

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DELIVERY MODE

07/17/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,748	Applicant(s) OHMI, TADAHIRO	
	Examiner NATHAN ZOLLINGER	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060817</u> . | 6) <input type="checkbox"/> Other: ____. |

Detailed Action

Specification

The disclosure is objected to because of the following informalities: spelling mistakes. For example, in paragraph 2, the word apparatus is misspelled as “apparatuss.” Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 10-11 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Akutsu (JP2002039061A).

Claim 1: Akutsu discloses a vacuum apparatus comprising a vacuum container having a gas inlet and a gas outlet (Drawing 4, 10, 11, 12); a vacuum pump (Drawing 4, 16a) of at least one stage connected to said gas outlet of said vacuum container for depressurizing the inside of said vacuum container or maintaining the inside of said vacuum container in a depressurized state; and a compressor (Drawing 4, 7) connected to a discharge port of the last-stage vacuum pump of said at least one-stage vacuum pump. Applicant also claims that the compressor has the capability of depressurizing an input side of said compressor. It has been held that the recitation that an element is

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“capable of” performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Claim 3: Akutsu also discloses a vacuum apparatus wherein the number of vacuum pump stages is set to the plurality of stages (Drawing 4).

Claim 10: Akutsu discloses a vacuum apparatus comprising a container (Drawing 4, 10, 11, 12) to be depressurized having a gas inlet and a gas outlet and introduced with a gas in a supply amount smaller than a predetermined amount; a first vacuum pump (16a) for maintaining the inside of said container to be depressurized; a second vacuum pump (7) connected at a subsequent stage of said first vacuum pump; and a compressor (19) having depressurization capability and connected to said second vacuum pump.

Claim 11: Akutsu also discloses a vacuum apparatus wherein a first vacuum pump is a turbomolecular pump (paragraph 15) and a second vacuum pump is a booster pump (paragraph 35).

Claim 13: Akutsu also discloses a vacuum apparatus wherein the vacuum pump connected to said compressor is a screw pump (paragraph 16).

Claim 14: Akutsu also discloses a vacuum apparatus wherein said compressor and the vacuum pump to which said compressor is connected are co-operated in series (Drawing 4).

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Puech (US 6,644,931).

Claim 1: Puech discloses a vacuum apparatus comprising a vacuum container having a gas inlet and a gas outlet (3); a vacuum pump (1) of at least one stage connected to said gas outlet of said vacuum container for depressurizing the inside of said vacuum container or maintaining the inside of said vacuum container in a depressurized state; and a compressor (6) connected to a discharge port of the last-stage vacuum pump of said at least one-stage vacuum pump.

Claim 2: Puech also discloses a vacuum apparatus wherein the number of vacuum pump stages is set to one stage or a plurality of stages depending on a gas amount introduced into said vacuum container (Fig. 1, col. 5, lines 51-66 and col. 6, lines 1-14).

Claim 3: Puech also discloses a vacuum apparatus wherein the number of vacuum pump stages is set to the plurality of stages (Fig. 1, col. 5, lines 51-66 and col. 6, lines 1-14).

Claim 4: Puech also discloses a vacuum apparatus further comprising a gas recovery apparatus (10) for recovering a gas discharged from said last-stage vacuum pump for re-use of said gas; and wherein said compressor is a gas recovery compressor in said gas recovery apparatus (Fig. 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akutsu (JP2002039061A) in view of Puech.

Claim 5: Akutsu discloses a vacuum apparatus comprising a container (Drawing 4, 10, 11, 12) to be depressurized having a gas inlet and a gas outlet, vacuum pumps (16a, 7, 19) of a plurality of stages connected to said container for depressurizing the inside of said container and maintaining the inside of said container in a depressurized state. However, Akutsu does not disclose a gas recovery apparatus or a gas recovery compressor. Puech teaches a gas recovery apparatus (10) and a gas recovery compressor (6 or 10, col. 5, lines 15-21). It would be obvious to employ a gas recovery apparatus and compressor as taught by Puech into the pump of Akutsu in order to recycle the gases and save money (col. 6, lines 16-21).

Claim 6: Akutsu and Puech teach the limitations of claim 5. Akutsu also does not disclose omitting a last stage vacuum pump and a gas recovery compressor being connected to a discharge port of a vacuum pump prior to the last stage. Puech teaches omitting a last stage vacuum pump (Fig. 1, 6) and connecting a gas recovery compressor (10, col. 5, lines 15-21) to the discharge port of said vacuum pump (col. 5, lines 7-14; 59-63). It would be obvious to omit a pump as taught by Puech in the pump of Akutsu in order to bypass the last stage pump and facilitate the higher flow rate of gases that the upstream pumps must evacuate (col. 4, lines 66-67; col. 5, lines 1-7).

Claim 7: Akutsu discloses a vacuum apparatus comprising a container (Drawing 4, 10, 11, 12) to be depressurized having a gas inlet and a gas outlet; a first vacuum

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pump (16a) for maintaining the inside of said container to be depressurized; a second vacuum pump (7) connected at a subsequent stage of said first vacuum pump; a third vacuum pump (19) connected at a subsequent stage of said second vacuum pump. However, Akutsu does not disclose a compressor connected after three pumping stages. Puech teaches a compressor (6) connected after three pumping stages. It would be obvious to employ a compressor as taught by Puech into the pump of Akutsu in order to help the upstream pump stages withstand "the presence of low thermal conductivity gases...in the pumped gas flow, without exaggerated heating of...components" (col. 6, lines 12-14).

Claim 8: Akutsu and Puech teach the limitations of claim 7. Akutsu also discloses a vacuum apparatus wherein a first vacuum pump is a turbomolecular pump (paragraph 15), a second vacuum pump as a booster pump (paragraph 35) and a third vacuum pump being a dry pump (paragraph 35).

Claim 9: Akutsu and Puech teach the limitations of claim 7, discussed previously. Akutsu also does not teach a vacuum apparatus further comprising a gas recovery apparatus or a gas recovery compressor. Puech teaches a gas recovery apparatus (10) and a gas recovery compressor (6). It would be obvious to employ a gas recovery apparatus and compressor as taught by Puech into the pump of Akutsu in order to recycle the gases and save money (col. 6, lines 16-21).

Claim 12: Akutsu discloses the limitations of claim 10, discussed previously. However, Akutsu does not disclose a vacuum apparatus further comprising a gas recovery apparatus or a gas recovery compressor. Puech teaches a gas recovery

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apparatus (10) and a gas recovery compressor (6). It would be obvious to employ a gas recovery apparatus and compressor as taught by Puech into the pump of Akutsu in order to recycle the gases and save money (col. 6, lines 16-21).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See accompanying form PTO-892 Notice of References Cited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHAN ZOLLINGER whose telephone number is 571-270-7815. The examiner can normally be reached on Monday - Thursday, 9 a.m. - 4 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. Z./
Examiner, Art Unit 3746

/Devon C Kramer/
Supervisory Patent Examiner, Art
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